

**IDAHO DEPARTMENT OF FISH AND GAME**

**Cal Groen, Director**

**Project W-170-R-33**

**Progress Report**



**BIG GAME HARVEST SURVEY**

Study IV, Job 1

July 1, 2008 to June 30, 2009

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## **PROGRESS REPORT SURVEYS AND INVENTORY**

<b>STATE:</b>	<u>Idaho</u>	<b>JOB TITLE:</b>	<u>Harvest Surveys</u>
<b>PROJECT:</b>	<u>W-170-R-33</u>		
<b>SUBPROJECT:</b>	<u>8</u>	<b>STUDY NAME:</b>	<u>Hunter Attitude and Game</u>
<b>STUDY:</b>	<u>IV</u>		<u>Harvest Surveys and</u>
<b>JOB:</b>	<u>1</u>		<u>Inventories</u>
<b>PERIOD COVERED:</b> <u>July 1, 2008 to June 30, 2009</u>			

### **ABSTRACT**

Harvest estimates are made annually for all big game species in Idaho. Harvest of moose, mountain goats, bighorn sheep, black bears, and mountain lions is documented from mandatory carcass checks of all harvested animals. Deer, elk, and pronghorn harvest has been estimated from a mandatory report card from all hunters, with a follow-up telephone survey of a sample of hunters who failed to file the required report. The final figures (Appendix A) are estimates of hunter activity and harvest based on adjustments to the reported values. Surveys of hunters are also used to estimate hunter participation for most game species and to assess hunter's opinions about current issues about hunting and regulations in Idaho.

### **INTRODUCTION**

Prior to 1998, a telephone survey was conducted following the fall hunting season for all big game species (mule and white-tailed deer, elk, pronghorn, moose, bighorn sheep, mountain goats, black bears, and mountain lions). Table 1 presents harvest numbers from 1935 to 2008.

Increasing costs of conducting the telephone harvest survey and budget limitations resulted in moose, mountain goats, and bighorn sheep being eliminated from the telephone harvest survey program in 1996. Black bears and mountain lions were eliminated from the telephone survey program in 1997 to maximize information collected on harvest of deer, elk, and pronghorn (Table 1). Subsequently, minimum harvest of moose, mountain goats, bighorn sheep, black bear, and mountain lion has been calculated from mandatory harvest check information (Table 2).

#### **Deer, Elk, and Pronghorn Antelope**

Beginning in 1998, the telephone surveys for deer and elk were changed to a mandatory harvest report. Hunters are required to file a report about their hunt and harvest success. In 2001, pronghorn was also changed to a mandatory harvest report. Hunters are required to report the number of days hunted, by weapon and game management unit (GMU), whether they harvested an animal, and if so, the date, GMU, weapon used, sex, and antler points (deer and elk) or horn length (pronghorn). Results were tabulated for general, controlled, depredation, and landowner appreciation hunts, by GMUs, by elk management zones, and by harvest weapons. Mule deer and white-tailed deer are now tabulated separately. Starting in 2005, harvest estimates for mule

deer and white-tailed deer were estimated separately (tabulating species primarily hunted for, species harvested, days hunted, weapon used).

In 2008, hunters were able to submit their reports via mail, telephone, fax, or internet website. Systems Consultants, Inc., (SCI) Fallon, Nevada, processed the harvest reports for deer, elk, and pronghorn hunters in 2008 and the raw data were provided to the Department for analysis. The analysis and tabulation were performed internally. A random telephone survey of individuals who did not submit a harvest report was conducted by SCI from December 2008 to January 2009. The reported figures were modified by a non-reporting factor to obtain the final harvest figures.

A total of 242,475 tags were purchased by 160,518 hunters for deer, elk, or pronghorn hunts occurring in 2008 (primarily from August to December 2008; average 1.5 tags per hunter, maximum 6 tags per hunter). Hunters were required to report on their hunting effort and harvest success within 10 days of the end of hunting season. One postcard (118,000 in mid-November) was sent to hunters who had not yet filed their reports by those dates.

In recent years, a reminder letter (90,000 in mid-December 2007 and mid-January 2008) had been sent to hunters who had not yet filed reports. This was eliminated in 2008, to reduce costs and obtain results sooner. However, the number contacted by phone was increased to compensate for the anticipated lower percent who reported.

A total of 154,452 harvest reports were filed by hunters by 23 April 2009 (63.7% filed the required report). To estimate bias from non-compliance, we attempted to contact 32,000 of the remaining hunters by telephone from December 2008 to January 2009 to obtain their harvest reports. This sample was twice as large as in the previous year, and four times as large as in 2006. This phone survey was done one month earlier than in previous years, to obtain results earlier. Therefore some hunters did not have as much time to report as in past years. A sample of hunters was called by phone and 13,512 missing reports were completed by phone. This was used to calculate the harvest estimates (36% of missing controlled hunt reports and 13% of missing general reports were completed by phone – others had been properly reported during the same period, reducing the number needed to contact). Pronghorn hunters were sampled at a higher rate to increase precision. A total of 167,964 reports were filed by hunters or during the non-compliance phone survey (69.3% of all permits purchased). The harvest results from the telephone sample were used to estimate the harvest by hunters who did not file reports. A summary of big game harvest is presented in Tables 1 and 2 and Appendix A.

Estimated harvest and hunter participation for these species are also listed in other Federal Aid about each species. These harvest data are used to fill many requests for information by managers, biologists, commissioners, legislators, research collaborators, interested citizens, and other stakeholders.

## Moose, Bighorn Sheep, Mountain Goats, Black Bears and Mountain Lions

Harvest of moose, bighorn sheep, and mountain goats, black bears, and mountain lions was determined from mandatory carcass checks of all harvested animals. (Table 2 and Appendix A). More detailed information about these species is listed in other Federal Aid reports about each species.

## Hunter Opinion Surveys

Surveys of hunters are also used to assess hunter opinions about current issues about hunting and regulations in Idaho, sometimes in conjunction with harvest estimates. A stratified-random sample of hunters is typically contacted using a mailed survey questionnaire with a follow-up phone call. Participants are drawn from the list of hunters who purchased hunting licenses and/or specific relevant tags or permits. In some cases, selected hunters may respond through a web-based survey form on the internet.

Topics surveyed in 2008-2009 included:

- Opinions on bighorn sheep regulations,
- Twelve specific changes to hunting regulations
- Reasons why non-resident hunters were slow to purchase deer and elk tags in 2009
- Sightings of wolves by deer and elk hunters
- Participation in hunting on Access Yes! properties,

A survey of hunter opinions about bighorn sheep management was conducted in October 2008, in preparation for revising the bighorn sheep management plan. We sent 1,000 survey letters to hunters who had applied for sheep tags in 2005-2008, and 1,000 letters to hunters who had never applied for sheep permits in 1999-2008. We also received 597 responses to our online survey open to any interested parties. Responses received were used in updating the bighorn management plan.

An opinion survey was conducted in May 2009 of non-resident big game hunters. It was observed that sales of deer and elk tags to non-resident hunters were down in spring 2009. A list was prepared of 31,000 non-resident hunters who had purchased deer or elk tags in 2007 or 2008, but not yet in 2009. A questionnaire was sent to these hunters along with a packet of information inviting them to apply for upcoming controlled hunts. Respondents (n=2,584) indicated that typical reasons for not yet purchasing were: 1) concern about the poor economy, 2) perception of too many wolves and too few elk, and 3) annoyance at the recent 15% fee increase for non-residents but not residents. A follow-up summary of the findings was mailed to those hunters in September 2009.

Deer and elk hunters were surveyed in March 2009 about their wolf sightings while hunting. Hunters (n=2,500) who had reported hunting deer and elk in 9 specific GMUs in Fall 2008 were asked about their wolf observations while hunting (live wolves, tracks, scats, howling, etc.). The purpose of this survey is to assess the presence of wolf packs in specific drainages, as reported

by hunters, as one of several sources of information to assess wolf abundance. This is one part of an occupancy modeling approach to develop an efficient, low-cost monitoring method in the future to assess where wolf packs are located, perhaps without using radio-telemetry in the future. This is the second year of a three-year study in collaboration with the University of Montana and the Nez Perce Tribe.

### **ACKNOWLEDGMENTS**

This survey was partially supported by Federal Aid in Wildlife Restoration (W-170-R) Statewide Big Game Harvest Survey. The 2008 harvest survey results for deer, elk, and pronghorn were processed by Systems Consultants, Inc., Fallon, Nevada, under contract with the Idaho Department of Fish and Game.

Table 1. Statewide estimates of harvest, number of hunters, and activity for 2008.

Species	Season	Tags sold	Hunters	Harvest	Success (%)	Days hunted
Deer	Any weapon	129,638	108,757	32,854	26	683,172
	Archery	<sup>a</sup>	14,540	2,317	14	119,273
	Muzzleloader	<sup>a</sup>	2,668	596	21	14,115
	Controlled	16,351	14,593	7,792	53	81,384
	Total	145,989	131,926	43,605	33	897,961
Elk	Any Weapon	75,529	50,798	7,657	14	321,317
	Archery	<sup>a</sup>	19,012	2,627	13	167,210
	Muzzleloader	<sup>a</sup>	4,826	576	11	23,695
	Controlled	17,400	15,781	5,156	33	94,706
	Total	92,929	84,067	16,017	19	606,936
Pronghorn	Archery <sup>b</sup>	1,947	1,734	382	21	8,653
	Controlled	1,608	1,479	1,046	71	4,730
	Total	3,555	3,213	1,427	44	13,382

<sup>a</sup> Deer and elk general tags are valid for any-weapon, archery, and muzzleloader seasons.

<sup>b</sup> Pronghorn general tags are valid only for archery hunting.



Table 2. Big game harvest history, 1935-present.

Year	Deer	Elk	Pronghorn	Black bear	Mtn. lion	Moose	Bighorn sheep	Mtn. goat
1935	7,659	1,821	144	8			1	24
1936	7,800	1,917	124	79			4	81
1937	8,795	2,133		133			6	62
1938	11,597	2,298		49			12	61
1939								
1940			400					
1941								
1942	4,952		700					
1943	11,095	2,398		61				23
1944	13,982	2,874	1,470	118				33
1945	21,263	4,392	650	150				59
1946	26,936	5,435	0	233		26	13	125
1947	18,895	6,549	461	406		24	15	67
1948	21,924	5,944	419			27		
1949	22,285	5,395	383			27		
1950	22,578	7,165	539			50		8
1951	33,250	7,492	1,349			28		21
1952	30,454	8,792	1,520	500		71	13	14
1953	47,200	12,600	1,254	500		91	18	21
1954	51,400	12,451	970	2,600		105	13	27
1955	64,074	15,799	822	2,450		108	22	51
1956	71,862	15,910	919	3,124		134	20	61
1957	62,154	13,568	1,001	3,045		91	29	78
1958	71,013	16,450	821	3,709		77	37	59
1959	70,237	13,865	679	2,367	119	59	59	59
1960	75,213	16,545	701	3,373	83	40	62	114
1961	76,001	16,572	579	2,218	164	46		140
1962	66,645	13,653	549	3,951	98	45		144
1963	63,546	14,542	774	2,444	162	52	49	171
1964	67,379	13,835	839	3,419	127	59	35	161
1965	56,438	14,064	977	2,861	108	51	53	214
1966	64,629	14,631	1,219	3,386	156	55	14	161
1967	66,350	13,397	1,286	2,700	109	50	32	127
1968	78,441	17,064	1,294	2,597	164	53	47	161
1969	67,176	12,415	1,472	3,085	143	74	46	168
1970	77,087	14,146	1,551	3,404	114	81	64	151
1971	54,927	11,009	1,465	3,786	303	86	13	137
1972	47,599	9,324	1,486	3,783	70	88	21	152
1973	54,014	12,374	1,237	1,430	87	96	15	128
1974	42,026	8,712	1,301	1,747	112	112	16	121
1975	40,102	8,981	1,314	2,285	142	93	32	102
1976	25,427	4,135	1,380	2,516	123	94	38	103
1977	39,834	6,353	1,250	2,173	160	95	27	117

Table 2. Continued.

Year	Deer	Elk	Pronghorn	Black bear	Mtn. lion	Moose	Bighorn sheep	Mtn. goat
1978	39,879	7,662	1,345	2,300	167	99	38	106
1979	42,549	6,344	1,430	1,718	31	104	42	79
1980	45,988	8,303	1,498	1,619	97	118	32	47
1981	50,580	9,903	1,837	1,918	198	114	46	65
1982	48,670	12,485	2,112	1,584	189	147	64	32
1983	50,600	12,700	2,400	2,100	167	229	60	41
1984	42,600	15,600	2,070	2,100	400	268	70	52
1985	48,950	15,550	2,190	1,700	170	297	79	38
1986	59,800	15,500	2,540	2,150	250	355	79	56
1987	66,400	16,100	2,600	1,950	300	363	77	70
1988	82,200	20,400	2,800	1,900	550	399	76	62
1989	95,200	22,600	3,500	2,100	340	400	98	79
1990	72,100	21,500	3,180	2,300	350	422	92	76
1991	69,100	24,100	2,950	2,100	171	428	97	85
1992	61,200	26,600	3,150	2,800	330	420	106	67
1993	45,600	20,800	2,470	1,260	450	579	80	66
1994	56,900	28,000	1,835	2,250	450	558	78	69
1995	48,400	22,400	1,540	2,040	700	637	57	44
1996 <sup>a</sup>	50,800	25,600	1,460	1,740	635	583	48	48
1997 <sup>b,c</sup>	38,600	18,500	1,300	1,538	834	638	61	61
1998	39,000	18,750	1,150	1,973	804	612	63	57
1999	43,300	17,500	1,150	1,819	652	775	50	48
2000	45,200	20,200	1,325	1,855	728	774	50	48
2001	53,000	19,500	1,350	1,887	628	918	48	48
2002	44,650	18,400	1,350	2,390	514	870	34	41
2003	43,500	18,400	1,300	2,415	569	933	36	33
2004	46,160	20,800	1,340	2,443	459	928	46	32
2005	54,050	21,470	1,410	2,425	466	835	42	48
2006	51,700	20,040	1,480	2,231	480	811	48	46
2007	54,200	19,100	1,460	2,660	440	847	57	36
2008	43,605	16,017	1,427	2,169	416	794	48	39

<sup>a</sup> Because of budget shortfalls and increasing costs of conducting the telephone harvest survey, moose, bighorn sheep, and mountain goats were eliminated from the telephone survey in 1996. Harvest figures after 1996 result from mandatory harvest check-in records.

<sup>b</sup> Harvest estimates from 1997-2000 do not include pronghorn harvest during the general archery season.

<sup>c</sup> Black bear and mountain lions were dropped from the telephone survey program in 1997 because of budget restrictions. Harvest figures after 1997 result from mandatory harvest check-in records.

## APPENDIX A

# Summary of 2008 Big Game Harvest Estimates



Species	Estimated			
	Permits	Hunters	Harvest	Days hunted
Deer	145,989	131,926	43,605	897,961
Elk	92,929	84,067	16,017	606,936
Pronghorn	3,555	3,213	1,427	13,382
Black Bear	34,404	---	2,169	---
Mountain Lion	23,301	---	416	---
Moose	1,167	---	794	---
Bighorn Sheep	84	---	48	---
Mountain Goat	48	---	39	---

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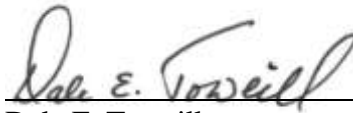
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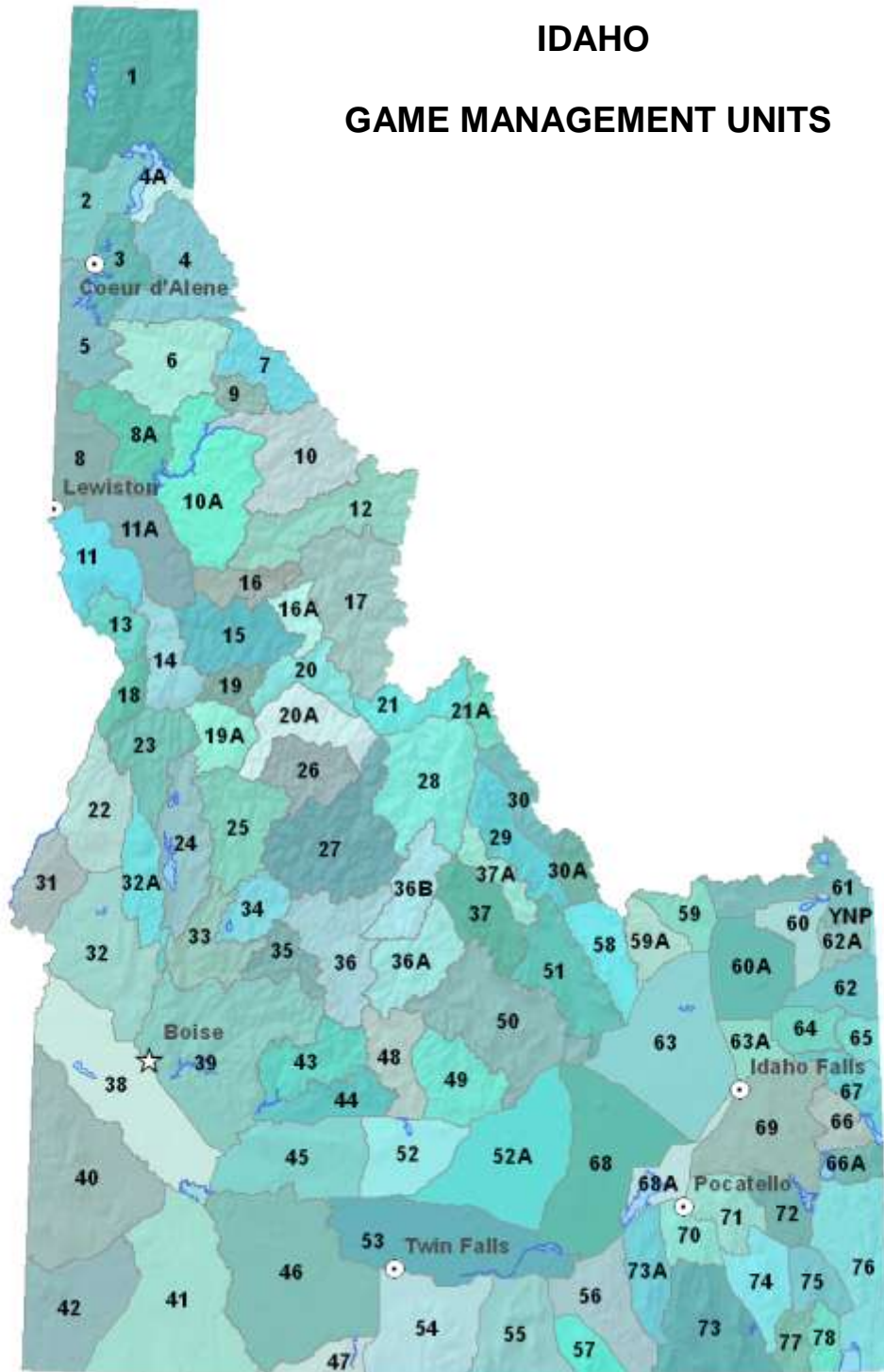
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# IDAHO

## GAME MANAGEMENT UNITS



## **FEDERAL AID IN WILDLIFE RESTORATION**

The Federal Aid in Wildlife Restoration Program consists of funds from a 10% to 11% manufacturer's excise tax collected from the sale of handguns, sporting rifles, shotguns, ammunition, and archery equipment. The Federal Aid program then allots the funds back to states through a formula based on each state's geographic area and the number of paid hunting license holders in the state. The Idaho Department of Fish and Game uses the funds to help restore, conserve, manage, and enhance wild birds and mammals for the public benefit. These funds are also used to educate hunters to develop the skills, knowledge, and attitudes necessary to be responsible, ethical hunters. Seventy-five percent of the funds for this project are from Federal Aid. The other 25% comes from license-generated funds.

